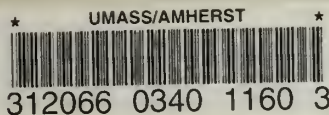


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Executive Summary

July, 1977

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

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Master Plan

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Transport Services
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Persons with Special Needs
•

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FOREWORD

This report was prepared by Applied Resource Integration, Ltd. under Contract No. PD-037 from the Massachusetts Bay Transportation Authority (MBTA) in cooperation with the Executive Office of Transportation and Construction (EOTC) of the Commonwealth of Massachusetts.

The survey of existing MBTA stations in regard to accessibility, schematic architectural design of three selected stations in order to provide accessibility and station cost estimates for accessibility modifications were accomplished by Charles G. Hilgenhurst Associates of Boston.

The preparation of this report for the MBTA has been funded in part through a Technical Studies grant from the United States Department of Transportation under the provisions of Section 9 of the Urban Mass Transportation Act of 1964, as amended.

A preliminary draft of this plan was submitted to the MBTA in June, 1977 for review and comments. In addition, the preliminary draft was subsequently reviewed by concerned advisory groups as discussed herein. Resultant comments were forwarded to ARI by the MBTA in December, 1977. These modifications were incorporated and the final draft was submitted to the MBTA in February, 1978.

ACKNOWLEDGEMENTS

Many individuals and organizations throughout the MBTA region provided information and made significant contributions to this study. Their help and assistance is gratefully acknowledged.

Mr. Thomas C. O'Brien, Manager, MBTA Office of Special Needs directed the project for the MBTA and made valuable contributions to the study. His dedication and cooperation was extremely helpful. In addition, the help and guidance of Mr. Ronald Tober, Mr. Drew Hyde, Ms. Mary MacInnes and others from the MBTA is acknowledged.

Ms. Karla Karash served as liaison representative from EOTC and made significant technical contributions to the study which were extremely helpful. During the later part of the study, Ms. Diane Coleman of EOTC also provided important liaison.

Special acknowledgement must be given to the staff of Charles G. Hilgenhurst for their excellent effort and cooperation in regard to the architectural aspects of the study.

An essential facet of this study was the input of the Project Advisory Committee (PAC). These people gave valuable time to review and critique the voluminous study results on an on-going basis. As a result, their collective inputs had a significant input on the study results. The contribution of the following individuals for serving on the PAC is gratefully acknowledged:

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EXECUTIVE SUMMARY

The overall purpose of this study was to develop a planned approach to solving the mobility problems of persons with special transport needs - the transportation handicapped. This group of handicapped and elderly persons have functional difficulties in using the existing services of the MBTA. Some cannot use the service at all because its vehicles and facilities are inaccessible. To ensure the relevance of the study to local needs, a continuous process of review and critiques by both the Standing Committee of MBTA's Office of Special Needs and a special Project Advisory Committee of approximately 20 concerned individuals were carried out during the study. This culminated in a public discussion of the findings at plenary and workshop sessions in a special forum convened for that sole purpose.

As discussed in Section II, recent Federal regulations along with judicial interpretations of these regulations make it imperative that the MBTA implement improvements that effectively provide mobility opportunities for the transportation handicapped. This action is required in order to maintain continuation of Federal funds to support the MBTA. However, it should also be pointed out that accessibility improvements, particularly to facilities and vehicles often are of benefit to the general public and, therefore, an inducement to ridership.

Based upon the best available information, it was estimated that in 1977 there were about 129,000 individuals in the MBTA region who were transportation handicapped. This represents close to five percent of the total population and does not include all handicapped or all elderly persons. Almost one-fourth of the elderly population were estimated to be transportation handicapped, while only about two percent of the non elderly (<65) population were transportation handicapped. Thus, 56 percent of the transportation handicapped were estimated to be age 65 or over.

A little over two-thirds of the transportation handicapped were persons with chronic (continuing) conditions and about one-half of these persons could not functionally use existing transit services. Persons in institutions and those who had acute (temporary) disabilities represent 25 and 6 percent respectively of the transportation handicapped. A more detailed perspective of the transportation handicapped and their travel characteristics is given in Section III.

A detailed survey showed that the MBTA currently has two completely accessible suburban stations (Oak Grove and Ashmont). By Fall 1978, three key downtown stations will have had elevators installed as part of the Phase II Station Modernization Program, allowing partial accessibility in each station. Otherwise, the MBTA fixed facilities are generally inaccessible to the handicapped. None of the fixed route buses are equipped with a wheelchair lift and the present fleet of 203 kneeler buses are not operated on a schedule for effective use by some of the transportation handicapped.

At the present time the MBTA does operate a half-fare program for both the elderly and handicapped and has an Office of Special Needs which address the mobility concerns of the transportation handicapped.

An extensive survey of social and human service agency transportation programs showed that about 180,000 trips per month are provided to selected groups of the transportation handicapped at a cost of approximately \$200,000. There are about 60 licensed chair-car vehicles operating in the region in addition to taxis and some other service providers for the transportation handicapped. Several towns sponsor discounts on taxis, but except for agency clients, the transportation handicapped are generally forced to choose between high trip cost or being a rider in an automobile at somebody else's convenience. Others, due to high cost, inconvenience or inaccessibility, limit their mobility by making less trips.

With respect to financial resources to support services, direct funding sources such as a portion of DOT/UMTA Section 5 funds can be and, depending on interpretation of UMTA regulations, will have to be used to subsidize services for the transportation handicapped. One example of "special efforts" cited by UMTA is the equivalent of 5% of these funds which would amount to about \$1,000,000 per year for the MBTA. Indirect funding sources that are potentially available include various Department of Health, Education and Welfare (HEW) categorical grant programs and some private sources.

These funds currently support existing services for clients or selected subgroups of the transportation handicapped.

It is difficult to quantify the unmet travel needs (latent demand) and consequential cost benefits for the transportation handicapped. The existing lack of mobility opportunities make it hard for a person in this group to accurately visualize what they would do given a choice of unfamiliar opportunities. Furthermore, it must be realized that it takes a long time for some individuals to change their established living patterns due to improved mobility and it has only been recently recognized nationally that handicapped individuals should have equal opportunities. Thus, at this time, estimates of how many transportation handicapped will use new services can only be considered approximations based on limited available data and conjecture.

In order to start providing the needed mobility opportunities for the transportation handicapped a staged implementation program has been developed. There is an overriding theme to this approach. Because of the limited amount of financial resources available to the MBTA and the lack of specific experience in providing mobility for the transportation handicapped, it will be essential to carefully evaluate initial developments and make assessments on an on-going basis of the cost effectiveness based on funding constraints. Furthermore, the approach is based upon providing mobility opportunities to gain factual experience rather than just providing accessibility.

In development of the implementation strategy careful attention has been paid to the need to integrate fixed route improvements with the provision of new demand responsive services, while still recognizing the fundamental differences in cost and performance characteristics of the two approaches. The emphasis throughout the report and in the development of the implementation strategy has been on improved mobility for transportation handicapped persons. It was determined that the backbone of an improved mobility system must be a demand responsive component. The recommended strategy follows from these basic considerations:

- 1) The specialized demand responsive system should receive the highest priority in terms of planning, implementation and financial resource allocation.
- 2) The demand responsive service should develop outwards from the core of the MBTA region on a phased basis.
- 3) Substantial, well planned demonstrations of the rider-ship impacts of accessible fixed route systems (particularly buses) should be implemented as soon as possible to provide specific data prior to the implementation of high capital cost improvements.
- 4) Low cost capital improvements for increased accessibility safety and convenience should be implemented immediately.

The basic recommended implementation program is divided into two major stages over a five year period. In Stage A a basic commitment is made to the development of substantial operations of the demand responsive service, a demonstration of accessible fixed route buses and the immediate implementation of low capital cost improvements in the RT stations and all vehicles. In Stage B the thrust is upon the expansion of service for both the demand responsive and fixed route components based upon the Stage A results. Costs of both fixed route improvements and the new demand responsive services have been well defined. There is a higher level of confidence in the demand responsive projections

compared to accessible fixed route bus service. It is also relatively simple to alter the system design and operating characteristics to adapt to varying demand, thereby making the demand responsive projections and recommendations less speculative. The projections of fixed route ridership by transportation handicapped persons are by far the most subject to variation and conjecture, thereby making the Stage A testing mandatory.

An explanation of each of the specific phased activities in the overall time schedule is presented in Table 1. This schedule for the entire implementation program is shown as Figure 1.

Projections were made of the capital and operating costs for both the fixed route and the demand responsive services based on the recommended implementation strategy. The capital costs for all special needs improvements on a yearly basis were then compared to the estimated capital funds available through the UMTA Section 3 Capital Grant Program. In a similar fashion, the net operating costs for all the special needs improvements on an annual basis were compared to the expected cost of the MBTA to regional and state taxpayers, which is a performance measure used by the MBTA in setting goals. The costs and comparisons are summarized in Table 2.

The impact of the special needs programs can be measured through mobility opportunities and the trips actually taken. As a result of the recommended implementation strategy, it is estimated that at the end of the five year implementation period approximately 57% of the regional transportation handicapped population will have an opportunity for mobility provided by the MBTA. The actual ridership at that time can only be projected for the demand responsive system with any degree of certainty. Based on the demand responsive implementation as scheduled, it is estimated that in 1981 approximately 2 million trips will be made. It should be noted that this represents approximately 1% of the total MBTA trips projected for that year while the increase in

FIXED ROUTE IMPROVEMENTS

<u>STAGE</u>	<u>PHASE</u>	<u>ACTIVITY</u>
A	FRIA	At Grade RT Station Changes (4 stations)
	FRIB	Vehicle Improvements - Station Benches
	FRIC	Accessible Fixed Route Bus Demonstration
B	FRIIA	Accessible Fixed Route Bus Purchase
	FRIIB	RT Station Retrofit Modification

DEMAND RESPONSIVE SYSTEM DEVELOPMENT

<u>STAGE</u>	<u>PHASE</u>	<u>ACTIVITY</u>
A	DR PILOT	Continuation of existing pilot program with expansion to nine vehicles and user-side subsidy
	DR I	Expansion of demand responsive system to 24 vehicles serving most of Boston and all of Brookline
B	DR II	Continued expansion to service Boston, Brookline, Cambridge, Somerville, Everett, Chelsea, Winthrop, Revere - 61 vehicles total
	DR III	Continued expansion to serve above plus Quincy, Milton, Dedham, Newton, Waltham, Watertown, Belmont, Arlington, Medford, Malden - 108 vehicles total

TABLE 1 SUMMARY OF PHASED ACTIVITIES

